# OWNER'S MANUAL

# J②320.4

320W 4-Channel, Full-Range Amplifier

*Thank you for purchasing a JL Audio amplifier for your automotive sound system.*

*Your amplifier has been designed and manufactured to exacting standards in order to ensure years of musical enjoyment in your vehicle. For maximum performance, we highly recommend that you have your new amplifier installed by an authorized JL Audio dealer. Your authorized dealer has the training, expertise and installation equipment to ensure optimum performance from this product. Should you decide to install the amplifier yourself, please take the time to read this manual thoroughly so as to familiarize yourself with its installation requirements and setup procedures.*

*If you have any questions regarding the instructions in this manual or any aspect of your amplifier's operation, please contact your authorized JL Audio dealer for assistance. If you need further assistance, please call our Technical Support Department at (954) 443-1100 during business hours.*

## PROTECT YOUR HEARING!

We value you as a long-term customer. For that reason, we urge you to practice restraint in the operation of this product so as not to damage your hearing and that of others in your vehicle. Studies have shown that continuous exposure to high sound pressure levels can lead to permanent (irreparable) hearing loss. This and all other high-power amplifiers are capable of producing such high sound pressure levels when connected to a speaker system. Please limit your continuous exposure to high volume levels.

While driving, operate your audio system in a manner that still allows you to hear necessary noises to operate your vehicle safely (horns, sirens, etc.).

## SERIAL NUMBER

In the event that your amplifier requires service or is ever stolen, you will need to have a record of the product's serial number. Please take the time to enter that number in the space provided below. The serial number can be found on the bottom panel of the amplifier and on the amplifier packaging.

**Serial Number:**

_____

## INSTALLATION APPLICATIONS

This amplifier is designed for operation in vehicles with 12 volt, negative-ground electrical systems. Use of this product in vehicles with positive ground and/or voltages other than 12V may result in damage to the product and will void the warranty.

This product is not certified or approved for use in aircraft.

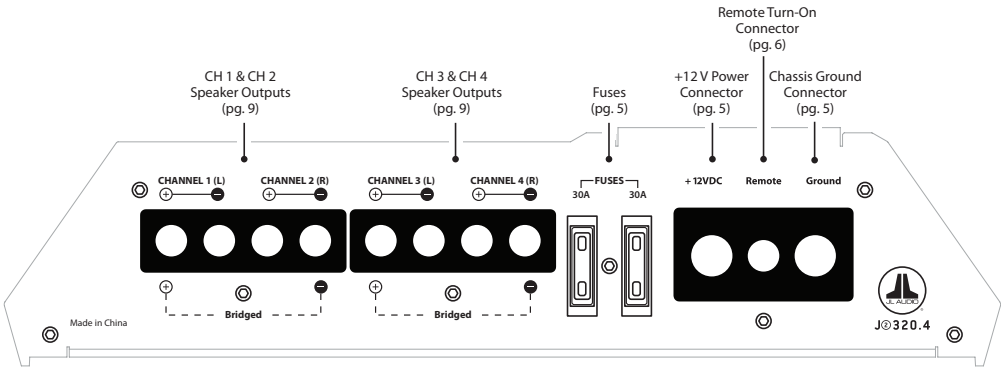
Do not attempt to "bridge" the outputs of this amplifier with the outputs of a second amplifier, including an identical one.

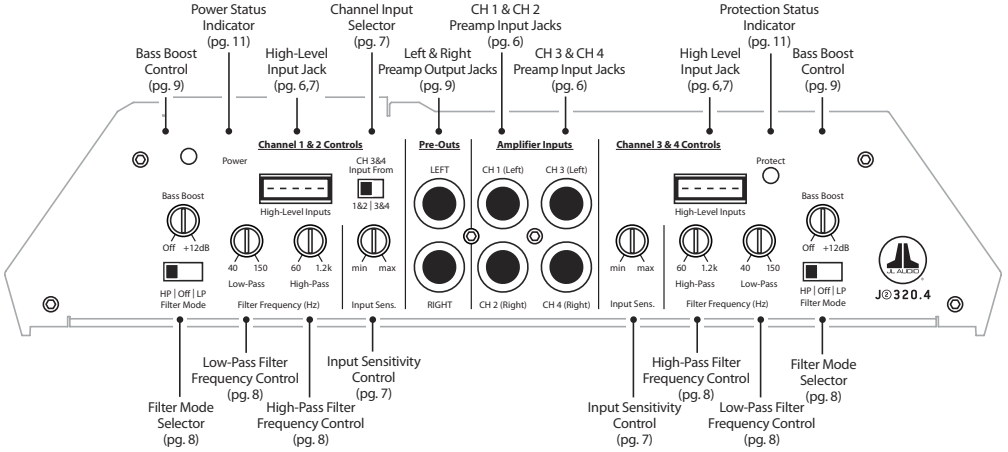
## PLANNING YOUR INSTALLATION

It is important that you take the time to read this manual and that you plan out your installation carefully. The following are some considerations that you must take into account when planning your installation.

### Cooling Efficiency Considerations:

The outer shell of your JL Audio amplifier is designed to remove heat from the amplifier circuitry. For optimum cooling performance, this outer shell should be exposed to as large a volume of air as possible. Enclosing the amplifier in a small, poorly ventilated chamber can lead to excessive heat build-up and degraded performance. If an installation calls for an enclosure around the amplifier, we recommend that this enclosure be ventilated with the aid of a fan. In normal applications, fan-cooling is not necessary.




**! IMPORTANT**

**Mounting the amplifier upside down is strongly discouraged.**

If mounting the amplifier under a seat, make sure there is at least 1 inch (2.5 cm) of space above the amplifier's outer shell to permit proper cooling.

### Safety Considerations:

Your amplifier needs to be installed in a dry, well-ventilated environment and in a manner which does not interfere with your vehicle's safety equipment (air bags, seat belt systems, ABS brake systems, etc.). You should also take the time to securely mount the amplifier so that it does not come loose in the event of a collision or a sudden jolt to the vehicle.

### Stupid Mistakes to Avoid

- Check before drilling any holes in your vehicle to make sure that you will not be drilling through a gas tank, brake line, wiring harness or other vital vehicle system.
- Do not run system wiring outside or underneath the vehicle. This is an extremely dangerous practice which can result in severe damage to your vehicle and person.
- Protect all system wires from sharp metal edges and wear by carefully routing them, tying them down and using grommets and loom where appropriate.
- Do not mount the amplifier in the engine compartment, under the vehicle, on the roof or in any other area that will expose the amplifier circuitry to the elements.

## PRODUCT DESCRIPTION

The JL Audio J2-320.4 is a four-channel, full-range audio amplifier utilizing Class B technology for all channels.

The J2-320.4 can be operated with a wide variety of source units and system configurations. For detailed specifications, please refer to Appendix B (page 13).

## TYPICAL INSTALLATION SEQUENCE

The following represents the sequence for a typical amplifier installation, using an aftermarket source unit or OEM Interface product. Additional steps and different procedures may be required in some applications. If you have any questions, please contact your authorized JL Audio dealer for assistance.

**1)** Disconnect the negative battery post connection and secure the disconnected cable to prevent accidental re-connection during installation. **This step is not optional.**

**2)** Run 4 AWG power wire from the battery location to the amplifier mounting location, taking care to route it in such a way that it will not be damaged and will not interfere with vehicle operation. Use 2 AWG or larger power wire and a power distribution block if additional amplifiers are being installed with the J2-320.4.

**3)** Connect power wire to the positive battery post. Fuse the wire with an appropriate fuse block (and connectors) within 18 inches (45 cm) wire length of the positive battery post. **This fuse is essential to protect the vehicle. Do not install the fuse until the power wire has been securely connected to the amplifier.**

**4)** Run signal cables and remote turn-on wire from the source unit to the final amplifier mounting location.

**5)** Run speaker cables from the speaker systems to the amplifier mounting location.

**6)** Find a good, solid metal grounding point close to the amplifier and connect the negative power wire to it using appropriate hardware. Use the same size power wire as the wire connected to the "**+12VDC**" connection (minimum 4 AWG), no longer than 36 inches (90 cm) from the amplifier to the ground connection point. In some vehicles, it may be necessary to upgrade the battery ground wire. (See page 5 for important notice).

**7)** Securely mount the amplifier using appropriate hardware.

**8)** Connect the positive and negative power wires to the amplifier.

**9)** Connect the remote turn-on wire to the amplifier.

**10)** Connect the input cables to the amplifier.

**11)** Connect the speaker cables to the amplifier.

**12)** Carefully review the amplifier's control settings to make sure that they are set according to the needs of the system.

**13)** Install the power wire fuse (60A for a single J2-320.4) and reconnect the negative battery post terminal.

**14)** Turn on the source unit at a low level to double-check that the amplifier is configured correctly. Resist the temptation to crank it up until you have verified the control settings.

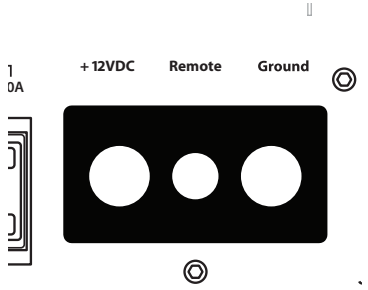
**15)** Make necessary adjustments to the input sensitivity controls to obtain the right overall output and the desired balance in the system. See Appendix A (page 12) for the recommended input sensitivity setting method.

**16)** Enjoy the fruits of your labor with your favorite music.



## POWER CONNECTIONS

Before installing the amplifier, disconnect the negative (ground) wire from the vehicle's battery. This will prevent accidental damage to the system, the vehicle and your body during installation.




The J2-320.4's "**+12VDC**" and "**Ground**" connections are designed to accept 4 AWG power wire. **4 AWG is a minimum power wire size for this amplifier.**

If you are installing the J2-320.4 with other amplifiers and wish to use a single main power wire, use 2 AWG or larger main power wire (depending on the overall current demands of all the amplifiers in the system). This 2 AWG or larger power wire should terminate into a distribution block mounted as close to the amplifiers as possible and should connect to the J2-320.4 with 4 AWG power wire.

**Note:** Smaller AWG numbers mean bigger wire and vice-versa (1/0 AWG is the largest, 2 AWG is smaller, then 4 AWG, then 8 AWG, etc.).

To connect the power and ground wires to the amplifier, strip 1/2-inch (12 mm) of insulation from each wire and insert the bare wire into the the appropriate terminal block positions on the J2-320.4. Use a Phillips screwdriver to secure the wire via the screw on the top of each terminal.

The **"GROUND"** connection should be made using 4 AWG wire and should be kept as short as possible, while accessing a solid piece of sheet metal in the vehicle. The surface of the sheet metal should be sanded at the contact point to create a clean, metal-to-metal connection between the chassis and the termination of the ground wire. The use of a star washer to lock down the connection is advisable.

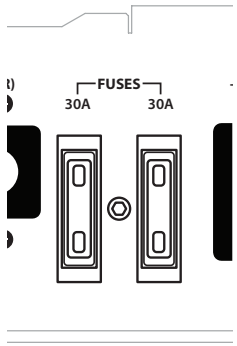
Any wires run through metal barriers (such as firewalls), must be protected with a high quality insulating grommet to prevent damage to the insulation of the wire. Failure to do so may result in a dangerous short circuit.

**! IMPORTANT**

**Many vehicles employ small (10 AWG - 6 AWG) wire to ground the battery to the vehicle chassis and to connect the alternator's positive connection to the battery. To prevent voltage drops, these wires should be upgraded to 4 AWG when installing amplifier systems with main fuse ratings above 60A.**

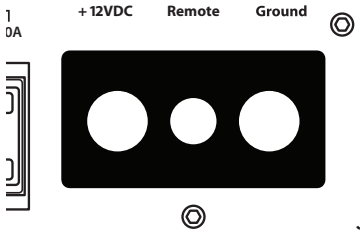
## FUSE REQUIREMENTS

While the J2-320.4 has two 30A ATC fuses on its power connection panel, these do nothing to protect the vehicle from a dangerous short circuit in the power wire. They only protect the amplifier. It is absolutely vital that the main power lead to the amplifier(s) in the system be fused within 18 inches (45 cm) of the positive battery post connection. The fuse value at each power wire should be high enough for all of the equipment being run from that power wire. If only the J2-320.4 is being run from that power wire, we recommend a 60A fuse be used. AFS or MAXI-type fuses are recommended.



### TURN-ON LEAD

The J2-320.4 is turned on and off using a conventional +12V remote turn-on lead, typically controlled by the source unit's remote turn-on output.



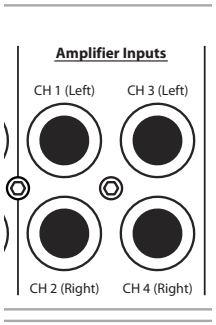

The amplifier will turn on when +12V is present at its "**Remote**" input and turn off when +12V is switched off. If a source unit does not have a dedicated remote turn-on output, the amplifier's turn-on lead can be connected to +12V via a switch that derives power from an ignition-switched circuit.

18 AWG wire is more than adequate for the remote turn-on connection. To connect the remote turn-on wire to the amplifier, strip 1/2-inch (12 mm) of insulation from the wire and insert it into the "Remote" receptacle on the power connector. Tighten the connector down using a Phillips screwdriver.

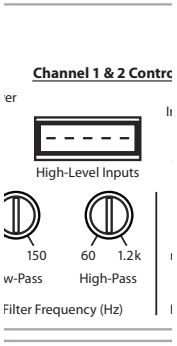
### INPUT SECTIONS

The J2-320.4's has two input sections: one for Channels 1&2 and another for Channels 3&4. These input sections allows you to send signals to the amplifier sections through the use of either two or four inputs. Each input section offers two input connection methods, one for high-level (speaker level) signals and one for low-level (preamp level) signals.

**1) Low-Level Inputs:** A standard left/right pair of RCA type jacks in the **"Amplifier Inputs"** section is used for preamp level (low-level) signal input on the J2-320.4. This is the preferred connection method whenever available.




**2) High-Level Inputs:** If your system does not offer a preamp level signal option, you can connect speaker level signals directly to the **"High-Level Inputs"** connectors using the supplied mating connectors and wire harnesses. Simply splice the appropriate left/right and positive/negative wires to the included harnesses and plug the harness into the **"High-Level Inputs"** connectors on the amplifier. The J2-320.4 will attenuate the high-level signals to make them compatible with its input stages.






**! IMPORTANT**

**Make sure you observe correct polarity in making the "High Level Input" connections. Failure to do so will reduce bass and affect stereo imaging.**

The connections for the **"High Level Inputs"** plug wires are as follows from left to right on the plug:

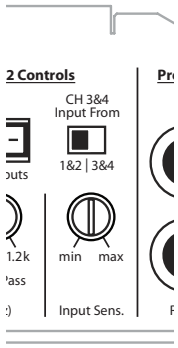
**Channels 1&2 (FRONT)**
White: Left Positive (+)
White/Black: Left Negative (–)
Black: Common Ground (rarely used)*
Gray: Right Positive (+)
Gray/Black: Right Negative (–)

**Channels 3&4 (REAR or SUB)**
Green: Left Positive (+)
Green/Black: Left Negative (–)
Black: Common Ground (rarely used)*
Purple: Right Positive (+)
Purple/Black: Right Negative (–)

*The only time you will use the Common Ground connections is with some older (pre-1980's) factory systems or head units that ground their speakers to chassis ground. To use these connections, ground the black wires on the plugs to chassis ground and only connect the Left and Right Positive plug wires to the factory radio outputs.

### "CH 3&4 Input From" Switch

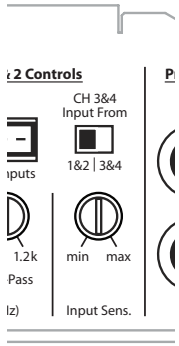
If you wish to send four discrete channels of input into the J2-320.4, simply use all four inputs (Channels 1 & 2 and Channels 3 & 4) and set the "**CH 3&4 Input From**" switch to "**3&4**".




If you wish to feed all four channels by using only two channels of input, set the "**CH 3&4 Input From**" switch to "**1&2**" and use only the inputs to channels 1 & 2.

### INPUT SENSITIVITY CONTROLS

The controls labeled "**Input Sens.**" located in each "**Channel Controls**" section can be used to match the source unit's output voltage to the input stage of each pair of amplifier channels for maximum clean output. Rotating the control clockwise will result in higher sensitivity (louder for a given input voltage). Rotating the control counter-clockwise will result in lower sensitivity (quieter for a given input voltage.)



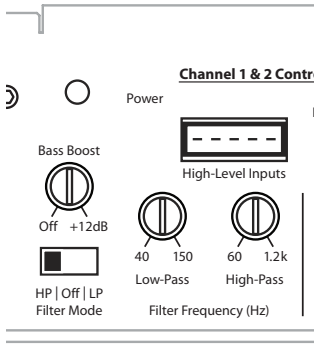

To properly set the amplifier for maximum clean output, please refer to Appendix A (page 12) in this manual. After using this procedure, you can then adjust any or all "**Input Sens.**" levels downward if this is required to achieve the desired system balance.

**! IMPORTANT**

**Do not increase any "Input Sens." setting for any channel(s) of any amplifier in the system beyond the maximum level established during the procedure outlined in Appendix A (page 12). Doing so will result in audible distortion and possible speaker damage.**

## FILTER CONTROLS

The active filter built into each channel section of the J2-320.4 can be used to eliminate potentially harmful and/or undesired frequencies from making their way through the amplifier sections to the speaker(s). This serves to improve tonal balance and to avoid distortion and possible speaker failure. Correct use of these filters can substantially increase the longevity and fidelity of your audio system.




1) **"Filter Mode" Control**: The J2-320.4 employs a 12dB per octave filter for each pair of channels (one filter for channels 1&2 and another filter for channels 3&4). Each of these filters can be configured independently into one of two filter types or defeated completely by way of the three-position "**Filter Mode**" switches:

   **"HP" (High-Pass):** Configures the filter to attenuate frequencies below the selected filter frequency at a rate of 12dB per octave. This is useful for connection of component speakers to one or both of the J2-320.4's channel pairs in a bi-amplified system.

   **Off":** Defeats the filter completely, allowing the full range of frequencies present at the inputs to feed the amplifier. This is useful for systems utilizing outboard crossovers or requiring full-range reproduction from one or both of the J2-320.4's channel pairs.

   **"LP" (Low-Pass):** Configures the filter to attenuate frequencies above the selected filter frequency at a rate of 12dB per octave. This is useful for connection of subwoofer(s) to one or both of the J2-320.4's channel pairs in a bi-amplified system.

2) **"Filter Freq. (Hz)"** The J2-320.4 has separate Filter Frequency controls in each Channel Controls section for the low-pass filter and the high-pass filter. You will only use one of these in each channel section, depending on which **"Filter Mode"** you have selected (or none of them if you have selected the **"Off"** position for the **"Filter Mode"**).

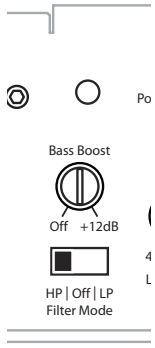
The High-Pass filters in the J2-320.4 are fully variable between 60 Hz and 1.2 kHz (1200 Hz) via the control knobs labeled **"High-Pass"**. The "8 o'clock" position corresponds to 80 Hz and is a good starting point for system tuning.

The Low-Pass filters in the J2-320.4 are fully variable between 40 Hz and 150 Hz via the control knobs labeled **"High-Pass"**. The "12 o'clock" position corresponds to 80 Hz and is a good starting point for system tuning.



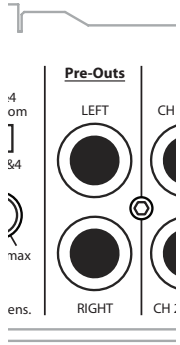
## "BASS BOOST" CONTROLS

Each channel pair of the J2-320.4 includes a single band, boost-only bass equalizer controlled by a rotary knob marked **"Bass Boost"**.
This control has a boost range of 0dB (full-counterclockwise) to +12dB (full-clockwise) and is centered at 45 Hz.




## PRE-OUTS

The J2-320.4 incorporates a pass-through preamp output section, so that additional amplifiers can be easily added to the system. This pass-through pre-amp output delivers a summed stereo signal , combining the Ch 1 and 3 signals into a Left Preamp Output Signal and the Ch. 2 and 4 signals into a Right Channel Preamp Output signal.



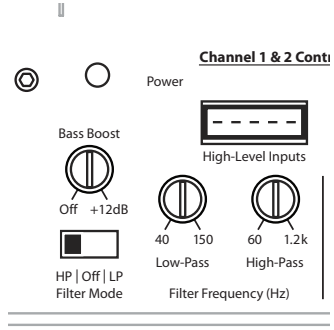

The preamp output signal is not affected by the "**Bass Boost**" processing selected for the amplifier or by any crossover filter selected (if the input signal is full-range, the preamp output will be full-range).

**Note:** The signal level of the "**Preamp Output**" is always line-level (low voltage).

## SPEAKER OUTPUTS

The J2-320.4's speaker outputs are designed to accept 16 AWG - 8 AWG wire.

Each pair of the J2-320.4's channels are designed to deliver power into speaker loads equal to or greater than 2 ohms per channel when using a "stereo" configuration and speaker loads equal to or greater than 4 ohms per bridged pair of channels when using a "bridged" configuration.




**! IMPORTANT**

**Speaker loads below 2 ohms nominal per channel are not recommended and may cause the amplifier to initiate a protection mode.**

## BRIDGING CONSIDERATIONS

Bridging is the practice of combining the output of two amplifier channels to drive a single load. When bridged, each channel produces signals of equal magnitude, but opposite polarity. The combined output of the two channels provides twice the output voltage available from a single channel. The J2-320.4 has been designed for bridging of its channel pairs without the need for input inversion adaptors.

To bridge a pair of channels, use the "**Left +**" and "**Right –**" speaker connectors only (the "**Left –**" and "**Right +**" remain unused). When bridged, each channel will deliver optimum power into a 4 ohm load.

**! IMPORTANT**

**When a pair of channels are bridged, they will deliver 160W x 1 into a 4 ohm load or 120W x 1 into an 8 ohm load. Operating a pair of bridged channels into a load lower than 4 ohms is not recommended.**

**Because a bridged pair of channels requires that both channels receive input, you need to connect both left and right inputs to the source unit. Connection of only one input will result in reduced power output, increased distortion and can cause the amplifier to overheat. Do not do this!**

When a pair of the J2-320.4's channels are operating in bridged mode, the output will be in mono (only one channel). This mono channel can contain right channel only information, left channel only information or the sum of the information from both the right and left channels. In order to achieve one of these options, configure the inputs to that pair of channels in one of these two ways:

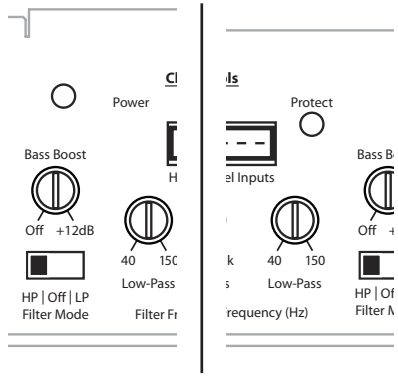
**1) Left Channel Only or Right Channel Only Information:** If you wish to send a left-only or right-only signal to a pair of the J2-320.4's channels, use a "Y-Adaptor" to split the single channel signal into both left and right RCA inputs. This option is useful when using a pair of the J2-320.4's channels to drive left channel speakers only and the other pair of the J2-320.4's channels to drive right channel speakers only.

**2) Left + Right Channel Information:** When bridged and fed by a stereo input, a pair of the J2-320.4's channels will automatically combine the left and right channels into a summed mono (left + right) channel. This option is useful when using a pair of the J2-320.4's channels to drive a subwoofer system or a summed mono center channel.



## AMPLIFIER STATUS INDICATOR LIGHTS & PROTECTION CIRCUITRY

There are two status indicator lights on the control panel of the amplifier.




**1)** "**Power**" **(Green):** lights to indicate that the amplifier is turned on and operating normally. Located at the far left of the control panel.

**2)** "**Protect**" **(Red)**: Indicates that the amplifier protection circuitry has been activated to prevent product failure due to thermal overload, short-circuit or a dangerously low impedance connected to the amplifier outputs. Connecting the speaker outputs to an impedance lower than 2 ohms stereo (4 ohms bridged) will cause this protection mode to activate. When this protection mode is activated, the amplifier will shut down to protect its circuitry. When the problem is corrected, the amplifier will return to normal operation and the **"Protect"** LED will shut off.

## SERVICING YOUR TMA AMPLIFIER

If your amplifier fails or malfunctions, please return it to your authorized JL Audio dealer so that it may be sent in to JL Audio for service. There are no user serviceable parts or fuses inside the amplifier. The unique nature of the circuitry in the JL Audio amplifiers requires specifically trained service personnel. Do not attempt to service the amplifier yourself or through unauthorized repair facilities. This will not only void the warranty, but may result in the creation of more problems within the amplifier.

If you have any questions about the installation or setup of the amplifier not covered in this manual, please contact your dealer or technical support.

**JL Audio Technical Support**:
(954) 443-1100
9:00 AM – 5:30 PM (Eastern Time Zone)
Monday - Friday

## APPENDIX A:
## Input Sensitivity Level Setting

Following the directions below will allow the installer to adjust the input sensitivity of each amplifier channel pair simply and easily in just a few minutes using equipment which is commonly available in installation bays.

### Necessary Equipment

- Digital AC Voltmeter
- CD with a sine-wave test tone recorded at 0 dB reference level in the frequency range to be amplified for that set of channels (50 Hz for subwoofer channels, 1 kHz for a midrange application). Do not use attenuated test tones (-10 dB, -20 dB, etc.).

### The Nine-Step Procedure

**1)** Disconnect the speaker(s) from the amplifier's speaker output connectors.
**2)** Turn off all processing (bass/treble, loudness, EQ, etc.) on the source unit, processors (if used) and amplifier. Set fader control to center position and subwoofer level control to 3/4 of maximum. If connected, set the amplifier's Remote Bass Control at maximum (full clockwise).
**3)** Turn the **"Input Sens."** control all the way down.
**4)** Set the source unit volume to 3/4 of full volume. This will allow for reasonable gain overlap with moderate clipping at full volume.
**5)** Using the chart on this page, determine the target voltage for input sensitivity adjustment according to the nominal impedance of the speaker system connected to the amplifier outputs.
**6)** Verify that you have disconnected the speakers before proceeding. Play a track with an appropriate sine wave (within the frequency range to be amplified) at 3/4 source unit volume.
**7)** Connect the AC voltmeter to the speaker output connectors of the amplifier. Make sure you test the voltage at the correct connectors (+ and –).
**8)** Increase the **"Input Sens."** control until the target voltage is observed with the voltmeter.
**9)** Once you have adjusted the amplifier to its maximum low-distortion output level, reconnect the speaker(s). The **"Input Sens."** controls can now be adjusted downward if the amplifier requires attenuation to achieve the desired system balance.

**! IMPORTANT**

**Do not increase any "Input Sens." setting for any amplifier channel or channel pair in the system beyond the maximum level established during this procedure. Doing so will result in audible distortion and possible speaker damage.**

It will be necessary to re-adjust the **"Input Sens."** for the affected channels if any equalizer boost is activated after setting the **"Input Sens."** with this procedure. This applies to any EQ boost circuit, including source unit tone controls or EQ circuits. EQ cuts will not require re-adjustment.

| Nom. Impedance | Target AC Voltage | |
|---|---|---|
| | Stereo | Bridged |
| **8Ω** | 15.5 V | 31 V |
| **6Ω** | 15.5 V | 28 V |
| **4Ω** | 15.5 V | 25 V |
| **3Ω** | 14 V | not recommended |
| **2Ω** | 12.5 V | not recommended |



## APPENDIX B:
## J2-320.4 Specifications

### General Specifications:

**Recommended Fuse Value:** 60A
**Recommended Fuse Type:** AFS, AGU or MaxiFuse™ at battery, 2 x 30A ATC fuses on amplifier chassis

### Input Sections:

**No. of Inputs:** Two Stereo Pairs
**Low-Level Inputs:** Single-ended with RCA jack inputs
**Low-Level Input Range:** 200mV - 4V RMS
**High-Level Inputs:** Single-ended with molded connector
**High-Level Input Range:** 2V - 10V RMS

### Amplifier Section:

**Amplifier Topology:** Class B with complementary bi-polar output stage
**Power Supply:** PWM switching type, unregulated

**Rated Power with less than 1% THD (14.4V supply):**
**Stereo, all channels driven:**
60W RMS x 4 @ 4 ohms, 80W RMS x 4 @ 2 ohms
**Bridged, all channels driven:**
120W RMS x 2 @ 8 ohms, 160W RMS x 2 @ 4 ohms
**Frequency Response:** 10 Hz - 25 kHz +/- 0.5 dB

### Crossover Sections:

**Filter Type:** 12dB/octave Butterworth with continuously variable low-pass cutoff frequency selection from 40-150 Hz and high-pass cutoff frequency selection from 60Hz - 1.2 kHz.
Configurable as Low-Pass or High-Pass. Defeatable.

### Preamp Output:

2-Channel, pass-through with unity gain, RCA-type jacks.

### Dimensions (LxWxH):

15.40" x 9.60" x 2.15" (391 mm x 244 mm x 55 mm)

Due to ongoing product development, all specifications are subject to change without notice.

## APPENDIX C: TROUBLESHOOTING

### "How do I properly set the input sensitivity on my amplifier"

**Please** refer to Appeaset the input sensitivity for maximum, low-distortion output.

### "My amplifier doesn't turn on"

**Check** the fuse, not just visually, but with a continuity meter. It is possible for a fuse to have poor internal connections that cannot be found by visual inspection. It is best to take the fuse out of the holder for testing. If no problem is found with the fuse, inspect the fuse-holder.

**Check** the integrity of the connections made to each of the "**+12VDC**", "**Ground**", and "**Remote**" terminals. Ensure that no wire insulation is pinched by the terminal set screw and that each connection is tight.

**Check** to make sure there is +12V at the **"Remote"** connection of the amplifier. In some cases, the turn-on lead from the source unit is insufficient to turn on multiple devices and the use of a relay is required. To test for this problem, jump the "**+12VDC**" wire to the "**Remote**" terminal to see if the amplifier turns on. If this does not work, proceed to the next step.

### "My amplifier's output fluctuates when I tap on it or hit a bump"

**Check** the connections to the amplifier. Make sure that the insulation for all wires has been stripped back far enough to allow a good contact area inside the terminal block.

**Check** the input connectors to ensure that they all are making good contact with the input jacks on the amplifier.



### "My amplifier turns on, but there is no output"

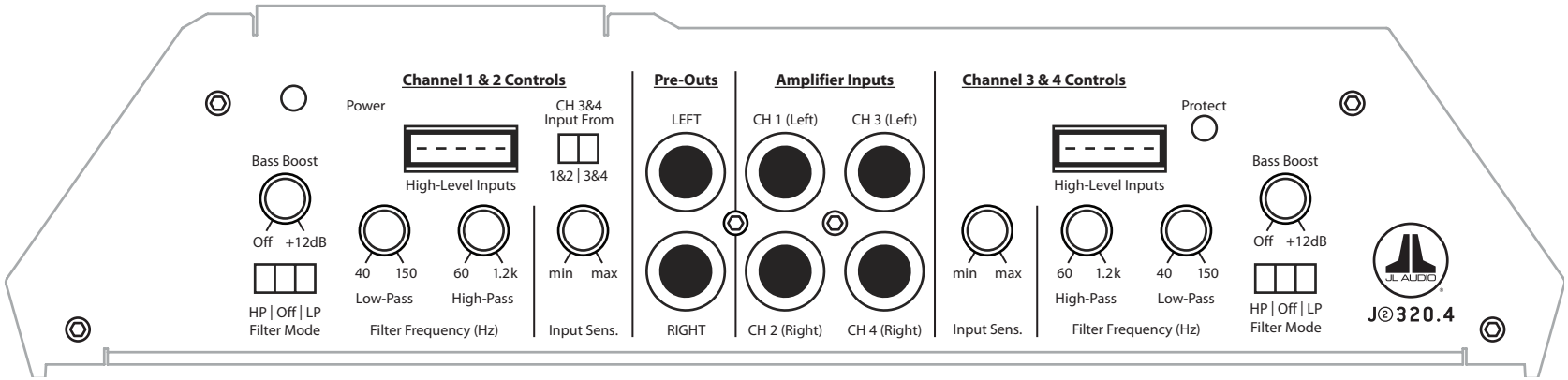
**Check** the input signal using an AC voltmeter to measure the voltage from the source unit while an appropriate test tone is played through the source unit (disconnect the input cables from the amplifier prior to this test). The frequency used should be in the range that is to be amplified by the amplifier (example: 50 Hz for a sub bass application or 1 kHz for a full range / high-pass application). A steady, sufficient voltage (between 0.2 and 8.0-volts) should be present at the output of the signal cables.

**Check** the output of the amplifier. Using the procedure explained in the previous check item (after plugging the input cables back into the amplifier) test for output at the speaker outputs of the amplifier. Unless you enjoy test tones at high levels, it is a good idea to remove the speaker wires from the amplifier while doing this. Turn the volume up approximately half way. 5V or more should be measured at the speaker outputs. This output level can vary greatly between amplifiers but it should not be in the millivolt range with the source unit at half volume. If you are reading sufficient voltage, check your speaker connections as explained below.

**Check** to ensure that the speaker wires are making a good connection with the metal inside the terminal block. The speaker wire connectors are designed to accept up to 8 AWG wire. Make sure to strip the wire to allow for a sufficient connection with the metal inside the terminal block.

**INSTALLATION NOTES:**

Use this diagram to document your amplifier's switch and control positions.



**INSTALLATION NOTES:**



**INSTALLATION NOTES:**

**LIMITED WARRANTY - AMPLIFIERS (USA)**

JL Audio warrants this product to be free of defects in materials and workmanship for a period of one (1) year from the original date of purchase.

This warranty is not transferrable and applies only to the original purchaser from an authorized JL Audio dealer. Should service be necessary under this warranty for any reason due to manufacturing defect or malfunction, JL Audio will (at its discretion), repair or replace the defective product with new or remanufactured product at no charge. Damage caused by the following is not covered under warranty: accident, misuse, abuse, product modification or neglect, failure to follow installation instructions, unauthorized repair attempts, misrepresentations by the seller. This warranty does not cover incidental or consequential damages and does not cover the cost of removing or reinstalling the unit(s). Cosmetic damage due to accident or normal wear and tear is not covered under warranty.

**Warranty is void if the product's serial number has been removed or defaced.**

Any applicable implied warranties are limited in duration to the period of the express warranty as provided herein beginning with the date of the original purchase at retail, and no warranties, whether express or implied, shall apply to this product thereafter. Some states do not allow limitations on implied warranties, therefore these exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

**If you need service on your JL AUDIO product:**

All warranty returns should be sent to JL Audio 's Amplifier Service Facility freight-prepaid through an authorized JL Audio dealer and must be accompanied by proof of purchase (a copy of the original sales receipt). Direct returns from consumers or non-authorized dealers will be refused unless specifically authorized by JL Audio with a valid return authorization number.

Warranty expiration on products returned without proof of purchase will be determined from the manufacturing date code. Coverage may be invalidated as this date is previous to purchase date. Non-defective items received will be returned freight-collect. Customer is responsible for shipping charges and insurance in sending the product to JL Audio. Freight damage on returns is not covered under warranty.

**For Service Information in the U.S.A. please call**
**JL Audio Customer Service**: (954) 443-1100
9:00 AM – 5:30 PM (Eastern Time Zone)
**JL Audio, Inc**
10369 North Commerce Pkwy.
Miramar, FL 33025
(do not send product for repair to this address)

**International Warranties:**
Products purchased outside the United States of America are covered only by that country's distributor and not by JL Audio, Inc.